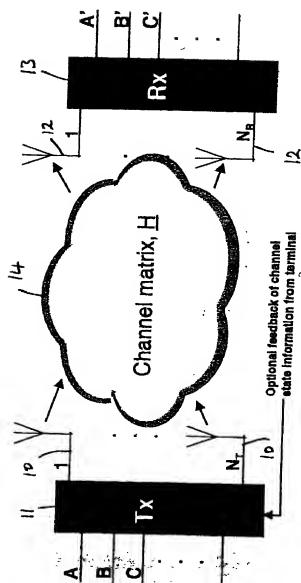


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PRIOR ART

FIGURE 1

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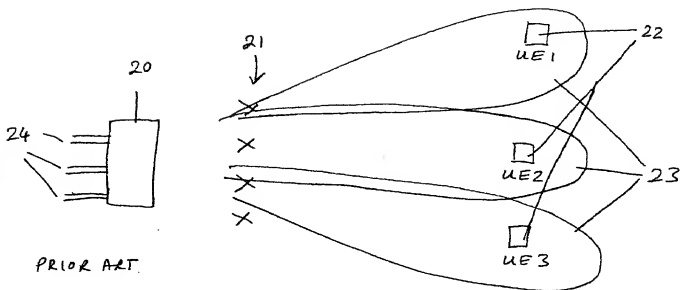


FIGURE 2

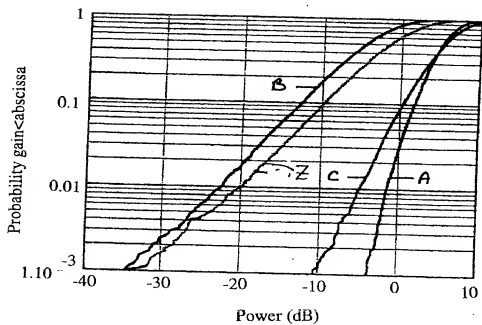
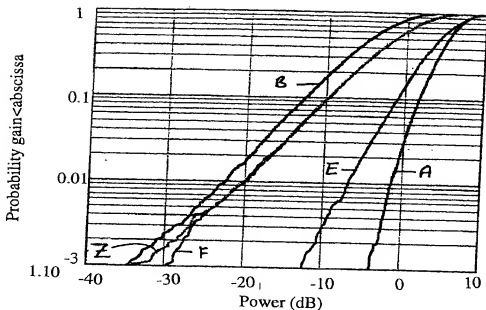


Figure 3

- A Max channel, no correlation
- B Min channel, no correlation
- C Max channel, complete correlation
- D Min channel, complete correlation (not present)
- Z Baseline 1:1

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- A Max channel, polarisation diversity, full polarisation conversion
- B Min channel, polarisation diversity, full polarisation conversion
- E Max channel, pol'n diversity, no polarisation conversion
- F Min channel, pol'n diversity, no polarisation conversion
- Z Baseline 1:1

Figure 4

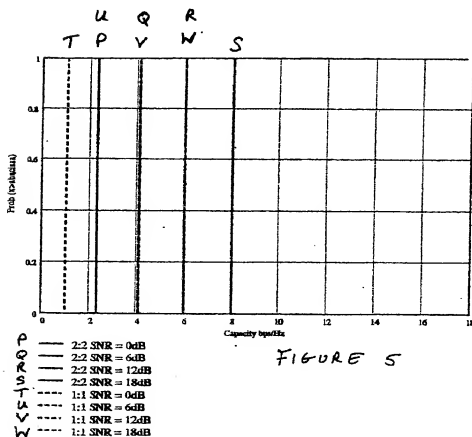


FIGURE 5

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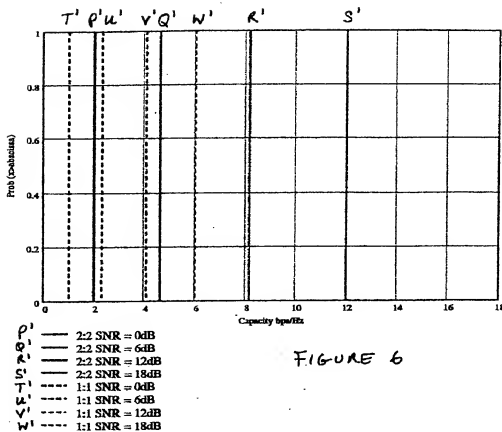


FIGURE 6

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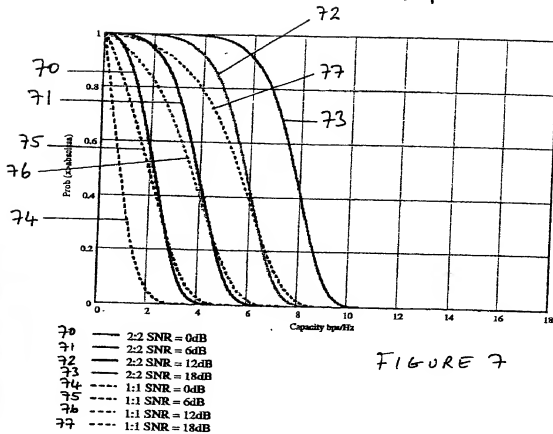


FIGURE 7

Figure 7 - Capacity for 2:2 space diversity MIMO system with the basestation antennas (transmitter) completely correlated and the mobile completely uncorrelated.

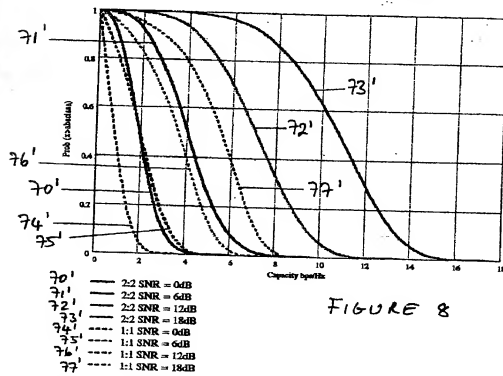


FIGURE 8

Figure 8 - Capacity for 2:2 polarisation diversity MIMO with no polarisation conversion in the environment

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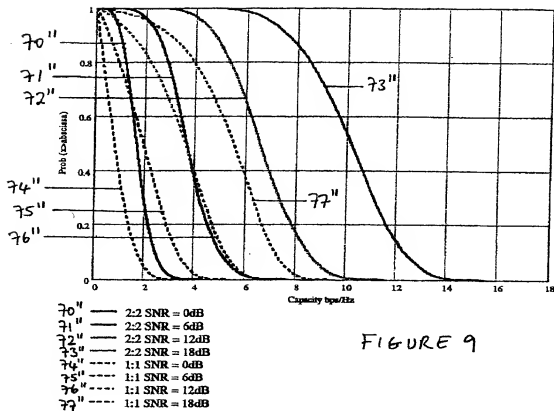
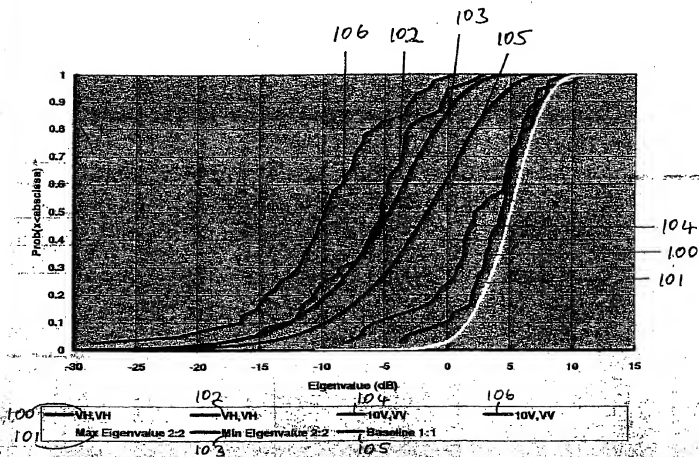


FIGURE 9



Figures 9-10 - Measured distributions for the power gains for the orthogonal MIMO paths for 2:2 space and polarisation diversity configurations.

FIGURE 10.

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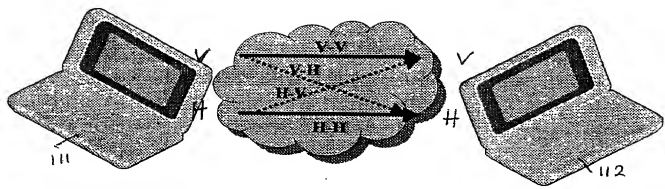


FIGURE 11

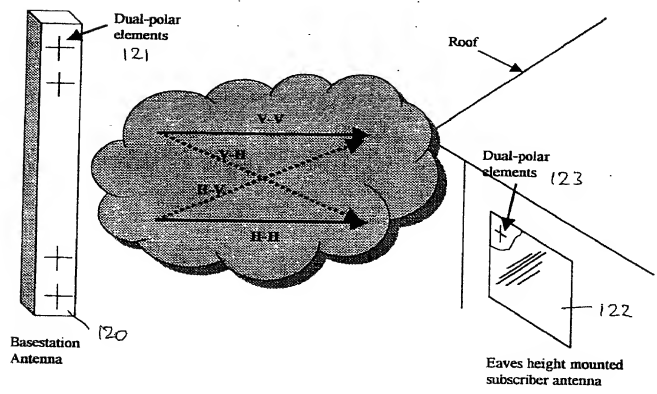


FIGURE 12

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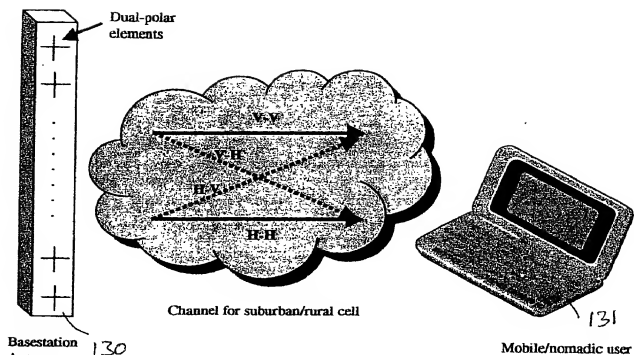


FIGURE 13

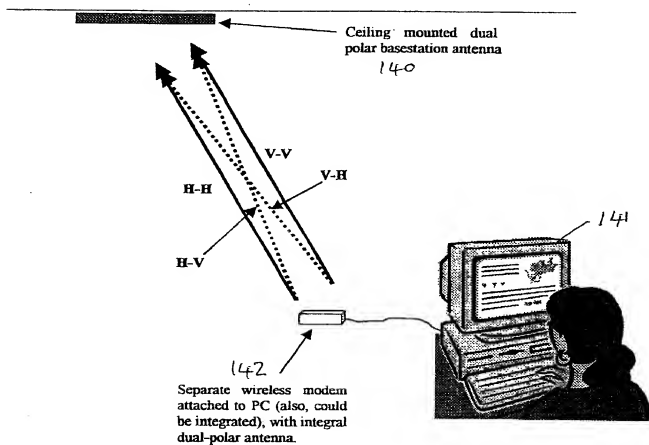


FIGURE 14.

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Fig 15A

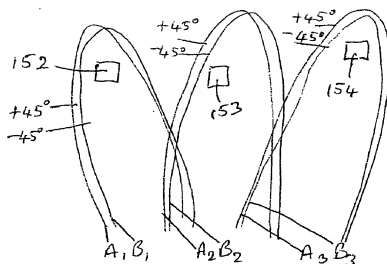


Fig 15B

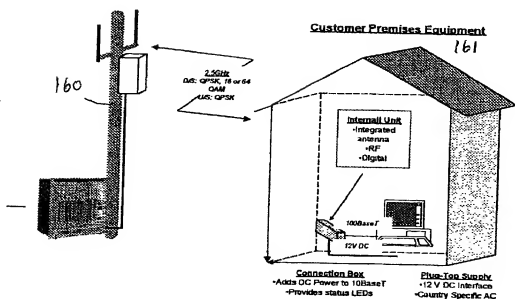


FIGURE 16

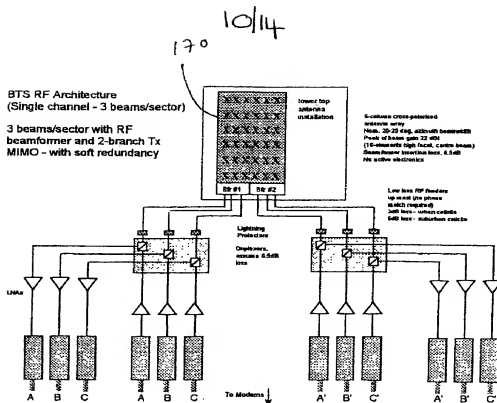


FIGURE 17

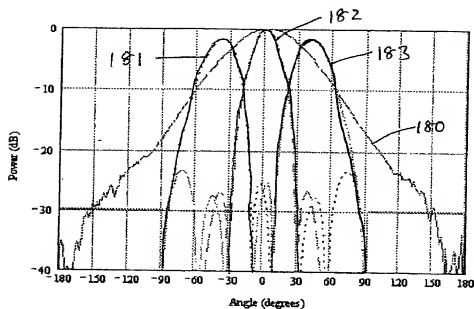
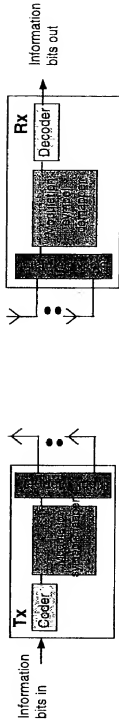


FIGURE 18.

Basic Space-Time Coding Techniques

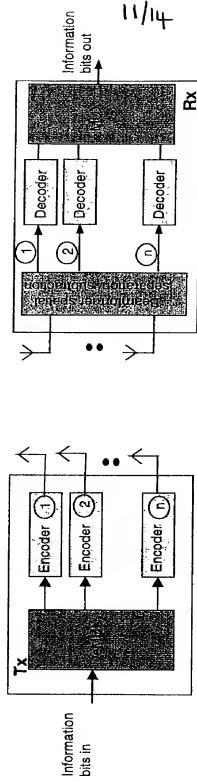
Space-Time Block Coding (STBC)

- defined for 3G



Layered Space-Time (BLAST)

- more applicable to fixed/nomadic



Space-Time Trellis Coding (STTC)

- suitable for both mobile and fixed

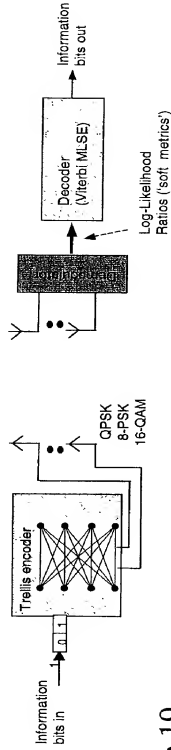


Figure 19

Feedback STC - Separated Subchannels

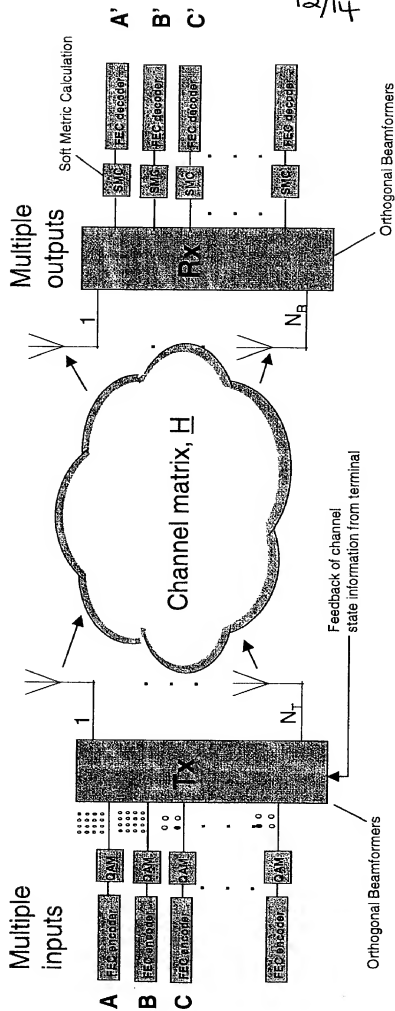


Figure 20

Spatial Multiplexing STC

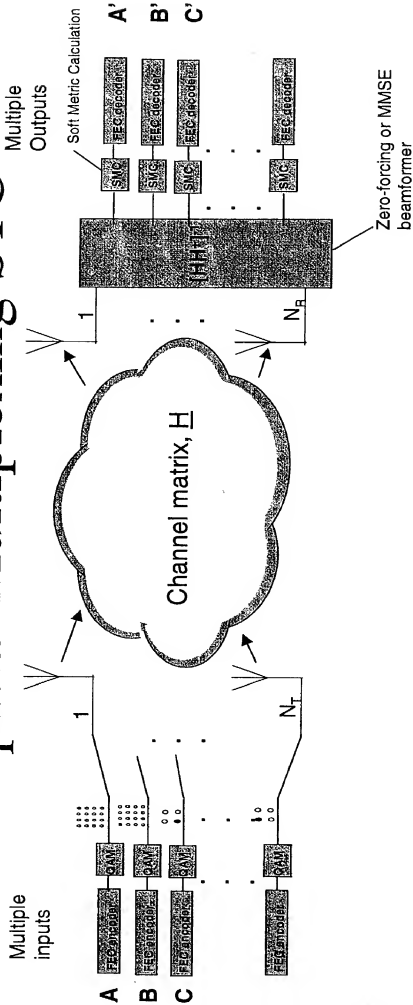


Figure 21

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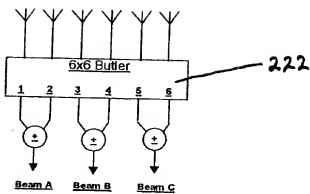


FIGURE 22

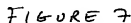
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Figure 7 – Capacity for 2x2 space diversity MIMO system with the basestation antennas (transmitter) completely correlated and the mobile completely uncorrelated.



Figure 18 - Capacity for 2:2 polarisation diversity MIMO with no polarisation conversion in the environment